WHAT IS CLAIMED IS:

1. An optical data recording method, comprising the steps of:

interrupting an operation of recording data in an optical data recording medium when a predetermined amount of data is continuously recorded in the optical data recording medium by using a laser beam emitted from a laser;

measuring a recording state of the optical data recording medium immediately before the interruption;

correcting a recording power of the laser beam for a next recording operation in the optical data recording medium based on the measured recording state; and

starting the next recording operation by using the laser beam with the determined recording power in the optical data recording medium at a position immediately after the interruption.

2. The optical data recording method as claimed in claim 1, wherein

in the step of interrupting, the predetermined amount of data is determined so that a time period required for completing recording of the predetermined amount of data is shorter than a time period over which a recording quality degrades due to a rise of a temperature of the laser.

3. The optical data recording method as claimed in claim 1, wherein

in the step of interrupting, the predetermined amount of data is determined so that a length along a radial direction of the optical data recoding medium covered by the predetermined amount of data is shorter than a length over which a recording quality degrades due to a fluctuation of a sensitivity of a recording layer of the optical data recoding medium.

4. The optical data recording method as claimed in claim 1, wherein

in the step of measuring, the recording state is measured during a seek operation performed for the next recording operation after the interrupted recording operation.

5. The optical data recording method as claimed in claim 1, wherein

in the step of correcting, a change of the recording power in each correction is restricted to be less than a predetermined value.

6. The optical data recording method as claimed in claim 1, wherein

in the step of measuring, the recording state of the optical data recording medium is obtained by measuring an asymmetry of a reproduced signal.

7. The optical data recording method as claimed in claim 1, wherein

in the step of measuring, the recording state of the optical data recording medium is obtained by measuring a modulation of a reproduced signal.

8. An optical data recording device, comprising:

a recording state measurement unit configured to measure a recording state of an optical data recording medium;

a recording power calculation unit configured to calculate a recording power of a laser beam emitted from a laser for a next recording operation in the optical data recording medium based on the measured recording state;

a laser control unit configured to control the laser based on the calculated recording power; and

a recording control unit configured to interrupt an operation of recording data in the optical data recording medium when a predetermined amount of data is continuously recorded in the optical data

recording medium, direct the recording state measurement unit to measure a recording state of the optical data recording medium immediately before the interruption, direct the recording power calculation unit and the laser control unit to determine a recording power of the laser beam for a next recording operation in the optical data recording medium based on the measured recording state, and start the next recording operation by using the laser beam with the determined recording power in the optical data recording medium at a position immediately after the interruption.

9. An optical data processing device, comprising an optical data recording device including:

a recording state measurement unit configured to measure a recording state of an optical data recording medium;

a recording power calculation unit configured to calculate a recording power of a laser beam emitted from a laser for a next recording operation in the optical data recording medium based on

the measured recording state;

a laser control unit configured to control the laser based on the calculated recording power;

a recording control unit configured to interrupt an operation of recording data in the optical data recording medium when a predetermined amount of data is continuously recorded in the optical data recording medium, direct the recording state measurement unit to measure a recording state of the optical data recording medium immediately before the interruption, direct the recording power calculation unit and the laser control unit to determine a recording power of the laser beam for a next recording operation in the optical data recording medium based on the measured recording state, and start the next recording operation by using the laser beam with the determined recording power in the optical data recording medium at a position immediately after the interruption.

10. An optical data recording method, comprising the steps of:

interrupting an operation of recording data in an optical data recording medium when a predetermined amount of data is continuously recorded in the optical data recording medium by using a laser beam emitted from a laser;

measuring a recording state of the optical data recording medium immediately before the interruption to measure a recording quality;

correcting a recording power of the laser beam for a next recording operation in the optical data recording medium based on the determined recording quality; and

starting the next recording operation by using the laser beam with the determined recording power in the optical data recording medium at a position immediately after the interruption,

wherein

in the step of measuring, the recording quality is measured in a seek operation performed when starting the next recording operation after the interrupted recording operation, a setting being made so that a reading quality is an optimum during the measurement of the recording quality, and the setting being made so that the recording quality is an optimum after the measurement of the recording quality.

11. The optical data recording method as claimed in claim 10, wherein

in the step of measuring, an offset of a focus position of a focus servo is set so that the reading quality is an optimum during the measurement of the recording quality in the seek operation, and the offset of the focus position is set so that the recording quality is an optimum after the measurement of the recording quality.

12. The optical data recording method as claimed in claim 10, wherein

in the step of measuring, an offset of a tilt of the optical data recording medium is set so that the reading quality is an optimum during the measurement of the recording quality in the seek operation, and the offset of the tilt is set so that the recording quality is an optimum after the measurement of the recording quality.

13. An optical data recording device, comprising:

a recording state measurement unit configured to measure a recording state of an optical data recording medium to measure a recording quality;

a recording power calculation unit configured to calculate a recording power of a laser beam emitted from a laser for a next recording operation in the optical data recording medium based on the measured recording quality;

a laser control unit configured to control the laser based on the calculated recording power;

a recording control unit configured to interrupt an operation of recording data in the optical data recording medium when a predetermined amount of data is continuously recorded in the optical data recording medium, direct the recording state measurement unit to measure a recording state of the optical data recording medium immediately before the interruption, direct the recording power calculation unit and the laser control unit to determine a recording power of the laser beam for a next recording operation in the optical data recording medium based on the measured recording quality, and start the next recording operation by using the laser beam with the

determined recording power in the optical data recording medium at a position immediately after the interruption; and

a focus position offset setting unit configured to set an offset of a focus position of a focus servo,

wherein the focus position offset setting unit sets the offset of the focus position of the focus servo so that the reading quality is an optimum during the measurement of the recording quality in the seek operation, and sets the offset of the focus position so that the recording quality is an optimum after the measurement of the recording quality in the seek operation.

14. An optical data recording device, comprising:

a recording state measurement unit configured to measure a recording state of an optical data recording medium to measure a recording quality;

a recording power calculation unit configured to calculate a recording power of a laser

beam emitted from a laser for a next recording operation in the optical data recording medium based on the measured recording quality;

a laser control unit configured to control the laser based on the calculated recording power;

a recording control unit configured to interrupt an operation of recording data in the optical data recording medium when a predetermined amount of data is continuously recorded in the optical data recording medium, direct the recording state measurement unit to measure a recording state of the optical data recording medium immediately before the interruption, direct the recording power calculation unit and the laser control unit to determine a recording power of the laser beam for a next recording operation in the optical data recording medium based on the measured recording quality, and start the next recording operation by using the laser beam with the determined recording power in the optical data recording medium at a position immediately after the interruption; and

a tilt offset setting unit configured to set an offset of a tilt of the optical data recording medium,

wherein the tilt offset setting unit sets

the offset of the tilt so that the reading quality is an optimum during the measurement of the recording quality in the seek operation, and sets the offset of the tilt so that the recording quality is an optimum after the measurement of the recording quality in the seek operation.

15. An optical disk device for recording data to or reproducing data from an optical disk, comprising:

an optical pickup that writes data to or reads data from the optical disk;

a focusing error signal generating unit that generates a focusing error signal from a signal output from the optical pickup;

an offset generating unit that generates an offset of a focusing position according to a preset value;

an accumulator that adds the offset to the focusing error signal and outputs the summed signal;

a filter circuit that adjusts a gain and a phase of a focusing servo system based on the summed

signal from the accumulator; and

a driver circuit that drives the optical pickup according to a signal output from the filter circuit,

wherein

in a seek operation, an optimum offset of the focusing position is set to the offset generating unit as the preset value, and the seek operation is finished after setting a time period in a timer;

in a recording operation or a reproducing operation after the seek operation, a count in the timer is monitored to determine whether the time period set in the timer has elapsed; and

the recording operation or reproducing operation is interrupted when the time period set in the timer has elapsed, and a next seek operation is performed and a next recording operation or a next reproducing operation is started at a position of the interruption.

16. The optical disk device as claimed in claim 15, wherein

the time period set to the timer is determined so that a variation of the optimum of the offset of the focus position due to movement of the optical pickup along a radial position on the optical disk in the recording operation or the reproducing operation does not influence a recording quality or a reproducing quality.

17. The optical disk device as claimed in claim 15, wherein

the time period set to the timer is determined based on a variation of the optimum of the offset of the focus position.

18. The optical disk device as claimed in claim 15, further comprising a storage unit configured to store focus offset data measured in advance and corresponding to optimum recording or reproducing quality at a plurality of positions on the optical disk

at different radii and at equal intervals;

wherein

the focus offset data corresponding to one of the positions is read out from the storage unit and set to the offset generating unit in the recording operation or the reproducing operation as the offset added to the focusing error signal.

19. The optical disk device as claimed in claim 15, wherein

when mounting the optical disk, an offset of the focus position resulting in the optimum recording quality or the optimum reproducing quality is measured beforehand in an inner area of the optical disk;

in a region from a most inner area of the optical disk to a radial position of the optical disk where a change of the offset of the focus position begins to increase, the measured offset of the focus position is set to the offset generating unit;

in a most peripheral region of the optical disk, an offset of the focus position obtained by shifting the offset measured in the inner area by a

preset value is set to the offset generating unit; and

in a region from the position where the change of the offset of the focus position begins to increase to the most peripheral region of the optical disk, an offset calculated by a first order approximation is set to the offset generating unit.

20. The optical disk device as claimed in claim 15, wherein

when mounting the optical disk, offsets of the focus position resulting in the optimum recording quality or the optimum reproducing quality are measured beforehand in an inner area and a peripheral area of the optical disk, respectively;

in a region from a most inner area of the optical disk to a radial position of the optical disk where a change of the offset of the focus position begins to increase, the offset measured in the inner area is set to the offset generating unit;

in the most peripheral region of the optical disk, the offset measured in the peripheral area is set to the offset generating unit; and

in a region from the position where the change of the offset of the focus position begins to increase to the most peripheral region of the optical disk, an offset of the focus position calculated by a first order approximation is set to the offset generating unit.

21. The optical disk device as claimed in claim 19, further comprising a jitter measurement unit configured to measure a jitter of the reproduced signal from the pickup,

wherein

the optimum of the offset of the focus position is determined under a condition that the jitter is the smallest.

22. The optical disk device as claimed in claim 19, further comprising an amplitude measurement unit configured to measure an amplitude of the

reproduced signal from the pickup,

wherein

the optimum of the offset of the focus position is determined under a condition that the amplitude is the highest.

23. The optical disk device as claimed in claim 21, wherein

if the optical disk is not recorded, data are recorded in a trial recording region of the optical disk; and

the data recorded in the trial recording region are reproduced to determine the offset of the focus position that results in the optimum of the reproducing quality.

24. The optical disk device as claimed in claim 22, wherein if the optical disk is recorded, data in a recorded region of the optical disk are reproduced

to determine the offset of the focus position that results in the optimum of the reproducing quality under a condition that an amplitude of the reproduced signal is the highest.

25. The optical disk device as claimed in claim 19, further comprising a wobbling signal amplitude measurement unit configured to measure an amplitude of a wobbling signal;

wherein the optimum of the offset of the focus position is determined under a condition that the amplitude of the wobbling signal is the highest.